

Physiological Effects of Alcohol



HMC Gibney

Surface Force Independent Duty Corpsman

LCPO, Branch Health Clinic

Souda Bay, Crete, Greece



What it Alcohol

- Ethyl alcohol: a psychoactive drug
- Found in beer, wine and hard liquor.
- Affects the body internally and externally.
- It is a CNS (Central Nervous System) depressant.



Central Nervous System Depressant

- It slows the transmission of neural impulses between the synapses in the brain (and elsewhere).
- How much does it take??
- Blood Alcohol Level (BAL)
 - .10 - .30 Central Nervous System Depression
 - .10 - .14 Slurred speech, exaggerated emotions
 - .15 - .20 Disorientation
 - **.21 - .30 Severe motor disturbance, passing out**
 - .31 - .39 Serious loss of feeling and sensation

BAC Calculations

(BAC Calculators Available Online - Search BAC)



Male 170 lbs

Female 125 lbs

- 5 drinks, 5 hours, without food
 - .02
- 5 drinks, 5 hours, with food
 - .01
- 10 drinks, 5 hours, without food
 - .11
- 10 drinks, 5 hours with food.
 - .08

- 5 drinks, 5 hours without food
 - .08
- 5 drinks, 5 hours with food.
 - .05
- 10 drinks, 5 hours without food
 - .22
- 10 drinks, 5 hours, with food.
 - .16



How is it absorbed??

- Absorbed rapidly from the stomach and small intestine.
- Passes into the blood stream and is then widely distributed throughout the body.
- The effects are directly related to the amount consumed.



Inward and Outward Presentation

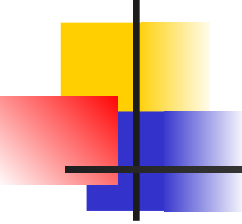
- As a depressant it will:
 - impair Judgment
 - reduce reaction time
 - slur speech and
 - produce an unsteady gait (difficulty walking).
- Excessive talking.
- Overly happy.
- Withdrawn or distant.
- Everyone is affected differently!



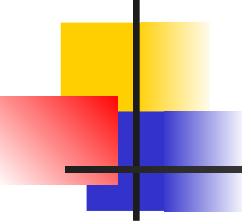
In Combination with Medications

- When consumed rapidly, it may result in coma and/or death (alcohol intoxication or overdose).
- When used in combination with prescription or non-prescription drugs, can intensify the effects of the alcohol, the medications, or both (antibiotics/other meds can be affected).
 - Note an exception to this rule: it **does not** overtly affect birth control pills.
 - Helpful hint: For hangovers use Motrin, not Tylenol (because of the way it is metabolized).

Effects of Alcohol on Organs “Short Term”

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- Brain and Nervous System - Impaired functions, progressive with BAC.
 - Cardiovascular - Extremely high levels can shut down involuntary functions, including heart beat.
 - Stomach - Stripped lining, gastritis.
 - Liver – Reversible inflammation (hepatitis)
 - Reproductive system – Impaired ability to achieve an erection or orgasm with decreased sensation.

Effects of Alcohol on Organs “Long Term”

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- Brain and Nervous System - Permanent brain damage, memory loss, decreased reasoning ability.
 - Cardiovascular - High blood pressure, heart weakening, heart enlargement, poor function.
 - Pancreas - Inflammation, infection, diabetes, death.
 - Stomach - Increased gastritis, bleeding ulcers, malnutrition.
 - Liver - Fatty Liver Disease, hepatitis, cirrhosis, failure to function.

Effects of Alcohol on Organs



“Long Term – Continued”

Affects all types of Cancers. Excessive drinkers are:

- 3 times more likely to develop liver cancer
- 4 times more likely to develop esophageal cancer
- 6 times more likely to develop oral cancer
- Women who average 1 drink per day increase their risk of breast cancer by 7%, 2-5 drinks per day increase risk by 50%

Effects of Alcohol on Organs

“Long Term – Continued”

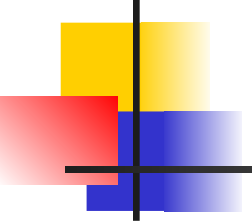
- Skin – premature aging
- Kidneys – diuresis, organ damage
- Psychological state – depression, increases suicidal/homicidal tendencies, instability of emotion
- Reproductive system - Shrinkage in ovaries, testes, sterility.
- Sleep disorders, Nutritional deficiencies, blood disorders, heart problems (cardiomyopathy)



Alcohol and the Female Reproductive System

- Adverse health effects associated with pregnancies include: Miscarriage, premature delivery, low birth weight, sudden infant deaths syndrome (SIDS), and prenatal conditions (fetal alcohol syndrome or neurodevelopmental disorders).
 - Fetal Alcohol Syndrome is the leading cause of mental retardation in infants.
 - IT ONLY TAKES ONE DRINK!!!
 - Can result in physical abnormalities, CNS dysfunction and behavioral problems.

Alcohol and the Female Reproductive System (con't)



- Drinking by the expectant Mother during the first trimester results in a six fold increase in SIDS.
- Binge drinking during the same time period increases the likelihood of SIDS by 8 times.



SUMMARY/Questions?

- Alcohol can and does affect the physiological functioning of your body
- Alcohol mixed with other physiology altering substances will increase the danger.
- QUESTIONS?